

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
MARINE RESOURCES OPERATIONS

REPORT FOR THE MONTH OF JUNE 1960

The first commercial albacore delivery for the 1960 season was unloaded on June 2. It consisted of 15 fish caught May 30 some 90 miles north of Guadalupe Island. Commercial landings during the remainder of the month were sporadic.

San Diego sportfishing boats, plus a few from Los Angeles-Long Beach which were willing to make 6 to 8 hour one-way trips, were doing very well on albacore in waters near San Clemente Island during the last 10 days of the month.

The N. B. SCOFIELD returned to port on June 18 from a 3,000-mile exploratory survey of offshore albacore grounds. During this 26-day cruise 156 albacore were hooked on trolling gear; 74 were in sufficiently good condition to tag and release.

During the periods May 26 to June 1 and June 9 to 15, oil company crews detonated 84,457 pounds of explosives (1,884 shots of EP 198) in offshore waters. These resulted in 32 observed fish kills ranging from 6 to 2,000 fish.

The relative fishing powers of 158 California albacore boats were computed on an IBM 709 computer. The job involved about 9,000,000 operations but required only 15 minutes of machine time. 1000 man hours would have been required to do this work manually -- a task far beyond our capabilities.

Shrimp Area B-1 (Ft. Bragg) was closed for the season on June 19. The season's catch reached 317,000 pounds.

Annual shrimp reports for 1952-1959 recording catch per minute and haul for each vessel were run on an IBM 604 calculating card punch. Because of the many man hours of calculations required without the machine we might otherwise not have been able to obtain these data.

The animal food industry is expanding operations. New facilities are planned for handling trawl caught fish at Monterey and Santa Barbara.

The mackerel fishery remained at a standstill because of a price dispute.

A. NORTHERN CALIFORNIA INVESTIGATIONS (May 26-June 25, 1960 inclusive)

1. Bottomfish

Industry

Flatfish: Strong northwest winds hampered the trawl fleet along the entire coast. Predominant species in the flatfish catch were dover sole in the north and petrale in the southern ports. Landings were down, however.

Two trawlers were added to the Eureka fleet. These vessels were formerly based in the State of Washington. Two San Francisco trawlers transferred their efforts temporarily to salmon buying.

The animal food industry is expanding. Two new facilities are planned for central California. Mission Fisheries of Monterey is currently installing a grinder and storage facilities. A newspaper report indicates that the Fur Breeders Co-op of Midvale, Utah has recently purchased the Farallone Fisheries of Santa Barbara and plans on bringing two large trawlers into the area.

Rockfish: Rockfishing picked up during the limited period of satisfactory weather conditions. Canary rockfish dominated at Eureka, followed by yellowtail rockfish and bocaccio. Landings from the southern areas were mostly bocaccio followed by chilipepper.

Market conditions dropped off; trawlers often had difficulty in selling the catch and were fishing under limits. These limits in the Morro Bay area shifted the effort towards petrale sole.

Research

Flatfish: Sampling of market and animal food landings continued at all ports when weather permitted fishing.

Flatfish tags from four English sole and two petrale were returned during the month from the December 1958 tagging. All came from the Eureka-Crescent City area of release. A single English sole tagged by the Fish Commission of Oregon in April 1958 off Cape Lookout was recovered off Eureka.

2. Shellfish

Industry

Abalone: The majority of the diving boats and crews have moved from Morro Bay to the southern fishing grounds and are now working in the Channel Islands, landing the catch at Santa Barbara and Newport.

Crab: It appears that landings in the northern part of the fishery continued at a reduced rate. The season ends July 15. Many fishermen have changed over to salmon fishing, some to shrimping.

Oysters: Oyster harvesting is continuing at a little above average for this time of year. The old custom of using fresh oysters only in the winter months is being set aside. Improved sanitation and refrigeration make a year round oyster season advisable. Since the demand is steady growers have no trouble marketing their product.

Coast Oyster Co. in Eureka reports the spring shipment of seed from Japan was in excellent condition when planted. Particular credit was given to frequent and thorough watering on the voyage from Japan.

Shrimp: Strong northwest winds hampered shrimping operations in most of the areas during the month. The shrimp have also been rather scarce and generally of a small size.

Area B-1 (Ft. Bragg) has been the "hottest" area this season. After the vessels failed to reach the 300,000 pound quota by 60,000 pounds by the previously announced closure date of May 31 (because of adverse weather), the area was re-opened from June 5 to June 9. The vessels caught 74,000 pounds during this period and brought the final total to 316,873 pounds.

Shrimp have been scarce and of a small grade at Crescent City. Most of the dealers have not been able to process the shrimp economically because of the small size. Consequently, they have told their boats to stay in. During the middle of the month larger shrimp were found on the California-Oregon line and vessels from Crescent City and Brookings were fishing this bed.

No landings were reported for Area B-2 (Bodega Bay) during the month.

Three vessels were prospecting Area C (Morro Bay) during the latter part of the month. The vessels were hampered by weather but got in several days of exploratory fishing. No shrimp school of commercial size has been found.

Research

Abalone: Ten abalone spat collectors were placed at Morro Bay stations #1 and #2 on June 1. They will be recovered periodically and inspected to see if young abalones have become attached. This is part of a study of spawning and early life history of abalone.

During June, 27 dives were made in the Morro Bay and Pt. Buchon areas. Examination of gonads indicated that some abalone are near spawning in the vicinity of Morro Bay but not in the Pt. Buchon area.

In general abalone were found to be in good market condition but legal size abalone were not very numerous.

Crab: A crab research cruise aboard the NAUTILUS started June 25. This cruise will center off Bodega Bay. Personnel will be sampling, by otter trawl, the crab population to determine the post season composition of the resource.

Figures and tables were completed for a crab gear savings paper for publication by the Pacific Marine Fisheries Commission.

Oysters: A survey of the areas and the density of the oysters on the oyster beds in Drakes Estero was completed. This work was to determine the number of oysters on oyster beds.

Shrimp: Samples of shrimp from Areas A, B-1 and C were sexed, measured and weighed during the month. Dahlstrom met with Ray Morgan, Austin Magill and Mike Kelly of the Oregon Fish Commission. The meeting place was at Brookings and Crescent City. Plans were made to sample and observe the catches at both ports during the season.

3. Sportfish (DJ F12R)
See regular DJ report attached.

4. Miscellaneous

On June 19 a rare giant squid, Moroteuthis robusta, was captured off Carmel, just south of Monterey Bay, by three San Jose skindivers. The specimen measured eight and two-thirds feet long, including tentacles. This is perhaps the third record of this cephalopod in California waters. It was originally described from Alaskan waters.

5. Meetings and Talks

- June 1 - Orcutt attended a meeting of Department personnel to discuss oyster management problems. The meeting was held at Region 3 headquarters and was attended by Region 3, Region 1 and Headquarters personnel.
- June 2, 3, 9, 23, 24 - Orcutt took part in Salary Committee meetings at Sacramento.
- June 15 - Phillips gave a 30 minute talk on "Sharks and Shark Attacks in California" at a luncheon meeting of the Watsonville Rotary Club. About 70 persons were present.
- June 15 - Phillips attended an afternoon meeting called by the State Division of Beaches and Parks, Monterey. Marine regulations for Pt. Lobos Reserve State Park were discussed.
- June 15 - A meeting was held at the Johnson Oyster Co. on Drakes Estero to discuss the interrelations between oyster growing and the proposed Pt. Reyes National Seashore. Present were Mr. Marshall, Marin Co. supervisor, Mr. Geo. Collins of National Park Service,

Mr. Chas. Johnson and Mr. Ben Johnson of the Johnson Oyster Co., Mrs. Doris Leonard of Nature Conservancy and Mr. Robt. Jones, Mr. Willis Evans and Mr. J. A. Aplin of the Department of Fish and Game. No money will be available for the development of this project for over a year. Publicity in the newspapers has caused an increase of visitors to the area with a corresponding pilferage problem to the oyster company.

June 21 - A meeting was held at Humboldt State College to coordinate work done by them on eel grass in Humboldt Bay with a similar study planned for Morro Bay. Present were Professors Yocum and Cooper, Mr. Matt Keller, a student at the college, and Mr. Irwin Haydock and J. A. Aplin of Marine Resources Operations.

June 23 - Cox attended a meeting of the American Malacological Union at Asilomar.

6. Visitors

June 2 - W. D. Brown, Institute for Marine Resources (Tech. Sec.), University of California, discussed dark meat in tuna at the Pacific Grove office.

June 8-10 - Miss Elinore Magee, graduate student, University of California, sought information on the history of the oyster fishery in California for her master's thesis at the University of California, Berkeley.

June 20 - D. L. Alverson of USFWS visited the Stanford office to discuss trawl gear developments and bottomfish project developments. Mr. Alverson is in charge of gear development programs of the USFWS at Seattle.

June 23 - Mr. J. Coek of the planning firm of Ernest Born and Company visited the office. His firm is gathering information pursuant to revising the Fisherman's Wharf area of the San Francisco waterfront.

B. SOUTHERN CALIFORNIA INVESTIGATIONS

1. Tuna

Industry

General: Catches of yellowfin tuna are being landed by the commercial fleet from Morgan and Lusitania Banks, off southern Baja California, to south of Acapulco, Mexico.

Fifteen albacore caught in May 30, 1960, about 90 miles north of Guadalupe Island, were landed on June 2, 1960. Average weight of these fish was 11 pounds. During the latter part of June about 1½ tons of albacore were landed at Morro Bay, California. Sport landings at Los Angeles and San Diego reported fine catches around San Clemente Island.

First catches of bluefin tuna since January, were landed at the fresh fish markets June 3, 1960. They were caught off San Clemente Island and weighed between 20-30 pounds each. Around the middle of the month catches of large bluefin were being landed from outside the Coronados Islands. These fish weighed between 85-110 pounds. During the latter part of June catches were again being landed from around San Clemente Island.

Albacore: The 1960 albacore survey cruise 60S3 terminated on June 18, 1960 with the return to port of the N. B. SCOFIELD. Over 3,000 miles of the offshore waters of California and Baja California were explored during the 26-day cruise.

After an initial catch of albacore was made, some 500 miles west of San Francisco, scattered occurrences were noted throughout the remainder of the survey area to as far south as the latitude of San Quintin, Baja California. Of 155 fish caught, 74 were tagged and released. Sea surface temperatures in areas where albacore were caught ranged from 60 to 64 degrees F.

Bluefin: An improved waterfront sampling program has been put into effect. With the continued cooperation of the fishermen and canners much vitally needed data are expected to be obtained.

Yellowfin tuna and skipjack: Identification of specimens collected during tagging trips is continuing with the intent of publishing this information when completed.

2. Sportfish

Six California halibut tag returns were received, all having been at liberty for 78 to 126 days. Three tagged at Ensenada in March, 1960 were recovered there by American sportfishermen; two tagged at Huntington Beach flats in February and March were recovered at the same location in June, and the sixth, tagged at Mission Beach on March 18, 1960, was recovered in Mission Bay 79 days later.

Party boat activity appears to be a repeat of the 1959 season. Barracuda, bonito and yellowtail are abundant and widely distributed. The talk centers around how good the fishing is, but experienced boatmen are unanimous in their opinion that a really good season requires albacore. Albacore keep charter boats working steadily. Barracuda and the others are the bread and butter of the every day boats.

Party boat catch figures through April compare as follows:

	<u>1960</u>	<u>1959</u>
Rockfish	181,511	286,117
Barracuda	109,732	88,423
Bonito	67,984	80,109
Kelp bass	39,660	76,595
Yellowtail	42,158	31,996
Salmon	4,851	19,791

3. Special Projects

SSP-58-1 - Yellowtail Publication: Manuscript still at printers.

SSP-58-2 - Yellowtail Fishery Surveillance: Good yellowtail catches were made by sportfishermen throughout southern California almost every day.

SSP-58-3 - City of Los Angeles Trawling: Three days June 22, 23 and 24 were spent trawling in Santa Monica Bay resulting in 28 successful hauls in water ranging in depth from 60 to 564 feet. Yellowchin sculpins, speckled sanddabs, northern midshipmen, California tonguefish and English sole were the most numerous species. A stargazer, Kathetostoma averyuncus, was taken in 40 to 55 fathoms on June 24. This was the second California record of this species. The first, caught June 18, 1959 in 50 fathoms, was also taken during the City of Los Angeles trawling program.

SSP-58-4 - Inshore Fishes Booklet: Awaiting page proof from printer.

SSP-58-10 - Kelp Study Committee: Inactive

SSP-58-11 - Mission Bay Survey: Inactive

SSP-58-12 - Test Block Studies: Inactive

SSP-60-1 - Pismo Clam Census Results: The manuscript was revised, the figures completed and the report submitted for publication in CALIFORNIA FISH AND GAME.

SSP-60-2 - Sea Lion Census: Counts and photographs were made from the Department's twin-engine Beechcraft in the area from the Oregon Border to Point Conception. Overcast skies greatly hampered operations and the census around the southern California Channel Islands was postponed until early July.

SSP-60-3 - Vertebral Key to Pacific Coast Fishes: Inactive

SSP-60-4 - Seismic Operations: The Shell Oil Company conducted seismic operations off southern California during the periods May 26 to June 1 and June 9 to 15. The crews left on June 22 and were scheduled to return June 30. A total of 1,884 shots (84,457 pounds of explosives) was detonated resulting in 32 separate kills of from 6 to 2,000 fish. All of the powder used was EP-198.

The following fish kills were observed:

	<u>Date</u>	<u>Size of Charge</u>	<u>Species</u>	<u>Number</u>
1.	May 27	45 lbs.	Northern anchovy	50
2.	"	"	" "	50
3.	May 28	"	" "	25
4.	"	"	Pacific mackerel	10
5.	May 29	"	" "	10
6.	"	"	" "	10
7.	May 30	41 lbs.	Blacksmith	1,000
			Sheephead	100
			Ocean whitefish	75
			Kelp rockfish	75
			Whitebelly rockfish	75
			Kelp bass	50
			Gopher rockfish	50
			Treefish	50
			Striped seaperch	25
8.	"	"	Northern anchovy	1,500
9.	"	"	" "	2,000
10.	May 31	45 lbs.	Jack mackerel	50
11.	"	"	" "	25
12.	"	"	" "	75
13.	June 9	"	Northern anchovy	100
14.	"	"	Jack smelt	100
15.	"	"	" "	100
16.	June 10	"	Jack mackerel	300
17.	"	"	" "	25
18.	"	"	Northern anchovy	100
19.	"	"	Jack mackerel	25
20.	June 11	"	Northern anchovy	200
21.	"	"	" "	10
22.	June 12	"	Jack mackerel	50
23.	"	"	" "	200
24.	"	"	" "	200
25.	June 13	"	" "	12
26.	"	"	" "	150
27.	"	"	" "	1,500
28.	"	"	" "	6
29.	"	"	" "	15
30.	June 14	"	Pacific sardine	10
31.	"	"	Pacific mackerel	10
32.	"	"	Northern anchovy	1,000

On June 29, the Naval Electronics Laboratory began three days of work with underwater explosives. A Department observer was present; his observations will appear in the July report.

SSP-60-5 - Bottomfish Ecology: Inactive

Miscellaneous: On June 2, Baxter and Warden Vorhies made a survey of the lower San Gabriel River in the vicinity of the Dow Chemical Company Outfall. No life was found for a distance of about 300 yards along shore below the outfall. A report was submitted to Region 5.

4. Barracuda-White Seabass (DJ F16R)
See regular DJ report attached.

5. Habitat Development (DJ F17R)
See regular DJ report attached.

6. Meetings and Talks

June 5 - Fitch met at CSFL with Jerry Ruhlow, Bill Nott, Bob Vile, Clyde Robinson and Bob Kaneen to discuss a letter berating the Department that had been sent to a national magazine by a sportfishing boat operator - Russ Izor.

June 8-9 - Clemens and Fitch attended a Long Beach meeting of the Tuna Industry called by the U. S. Bureau of Commercial Fisheries.

June 13 - Three wardens from Region 4 met with various members of the CSFL staff for training during the week.

June 14 - Nowell showed the latest Department of Fish and Game film "Wildlife for the Future" and talked on albacore for the sportfishermen at a meeting of the Long Beach Rod and Gun Club. There were 50 members present.

June 15 - Fitch and Roedel met with various members of the Stanford staff to discuss budgets and programming, particularly of the Northern California Sportfish Project.

June 15 - Fitch attended an evening delegates session of the OFPA at Compton.

June 20 - Two wardens from Region 4 met with various CSFL staff members for training during the week.

June 22-25 - Fitch attended the 13th annual meeting of the American Malacological Union, Pacific Division at Asilomar.

June 28 - Fitch attended a staff meeting at CSFL.

7. Visitors

June 2 - Bob Vile, OFPA President, visited CSFL to discuss various items of interest to his group and to set up a meeting to discuss a letter sent by Russ Izor, a sportboat operator, to a national magazine.

- June 6 - R. C. Wilson, former staff member and now with the USFWS in Hawaii, visited the Lab.
- June 10 - Vernon Brock, Hawaiian Area Director for USFWS, stopped at the Lab for much of the day. He had been attending the USFWS tuna meetings.
- June 16 - Mr. D. Clark and A. Curry of Shell Oil Co. spent several hours at CSFL discussing their current offshore seismic program. Fish kills, inadequate equipment, etc., etc. all were items of discussion.
- June 20 - Fred Woodworth, a former vessel employee, spent some time at CSFL discussing a number of items in which he has been engaged. Of greatest interest were his travels in Baja California and plans to move to Mulege to take over a sportfishing concession catering to U. S. fishermen.
- June 21 - E. Bailey, D-J Coordinator from Sacramento, spent most of the day at the Lab discussing budgets and other items with the Terminal Island D-J project personnel, Fitch and Roedel.

C. PELAGIC FISH INVESTIGATIONS

1. Industry

General: The southern California cannery continued to offer fishermen \$35 per ton for mackerel. As during May, most of the fleet remained at the dock. The fishermen maintain that it is not profitable to fish for mackerel at less than the \$50 per ton they were receiving in April.

Sardine: Cannery season closed. San Pedro fresh fish markets received 34 tons from June 1-22.

Pacific mackerel: There were no cannery landings. The one plant which has been operating, packing catfood, has suspended activities. Fresh fish market landings from June 1-23 totaled 45 tons.

Jack mackerel: Market landings from June 1-23 totaled 48 tons. There were no cannery landings. By comparison during June of 1959, 2,200 tons were landed.

Live bait: Anchovies were not present in large quantities but were available in sufficient numbers to supply the southern California sportfishing needs. The fish are generally larger than those taken last year, with most of the catch consisting of fish in their second year.

Large sardines (190-200 mm) were taken by San Diego bait haulers.

2. Research

Sardine: The M/V ALASKA returned June 4 from a 21 day trip in southern California waters. This was the second of two cruises designed to test the relative fish attraction qualities of different colored lights and the effectiveness of different types of collecting gear. In general both sardines and anchovies were attracted to the brightest light source regardless of color.

The preliminary phase of the morphometric study was completed this month with the final measurements made of 2500 adult and juvenile sardines. The specimens were collected on spawning fish surveys in southern California and Baja California waters. The objective of the study is to determine the origin of the stocks of sardines contributing to the California fishery.

Progress was made on the 1959-60 season sardine age paper.

Pacific mackerel: Due to the low level of commercial fish landings it was possible to concentrate effort on two delayed manuscripts. Progress was made on a paper on the age composition of the catch in the 1958-59 season, and tables were compiled for a paper on the food of this species.

Live bait: Most of the anchovies sampled consisted of fish in their second year. Although external parasites are seldom found on anchovies, 2-5 percent of the fish sampled during May and June were afflicted with a parasitic copepod (Caligus rapax).

Aerial survey: Extremely bad flying weather curtailed the June survey. Only a small portion of the coast was accessible. Twenty-five anchovy schools were observed off Tomales Bay entrance.

3. Meetings

June 14-15 & 23-25 - Gates, Daugherty and Lummis participated in the MRO in-service training program for five Fish and Game wardens.

June 23-24 - Radovich attended a CalCOFI meeting at La Jolla.

June 28 - Radovich attended a staff conference at Terminal Island.

D. BIOSTATISTICS

1. Data Processing

Regular Reports: The March 1960 statistical reports were compiled and copies distributed.

May 1960 Processor's Reports were completed. From this source, the monthly tuna letter was prepared and mailed.

April 1960 Marine Sport Catch reports were completed and the monthly mimeographed letter was mailed to party boat operators and others.

Annual Marine Sport Catch Boat Listings, were completed for Marine Sport Catch Investigation. These were in turn transmitted to the Sport Catch Investigation.

Annual 1959 Trawler Reports were completed and sent to the Trawl Investigation at Stanford.

Pacific Mackerel Reports III, September through December 1959, were completed for the Pelagic Fish Investigation.

Special Reports: Annual Shrimp Reports I through VI 1952 through 1959 were prepared for Shellfish Investigation. In order to run the reports it was necessary to use an IBM model 604 calculating card punch to calculate the catch per minute and catch per haul of each vessel. These calculations would have involved hours of clerk or biologist time to make the necessary computations and with increased work demands might have been impossible to obtain in the near future without the use of the card computer.

Information pertaining to herring, and salmon case packs for International North Pacific Fisheries Commission was transmitted to Mr. Roedel.

Work in Progress: Processing of May 1960 Marine Sport Catch reports is nearly completed. Completion and transmittal of monthly mimeographed summary should be before July 1.

Editing of May 1960 fish receipts is in progress, although very few have been received as yet from the field offices. This reflects the annual seasonal lag experienced when salmon catches are reported.

June 1960 cannery receipts are being edited as received.

New licenses for processors and cannery are being processed for 1960-61 license season.

Annual reports showing species, pounds and price (IB's) have been completed. These are necessary for establishing State-wide fishery values, and are preliminary to publication of Catch Bulletins and other formal reports.

Reports are to be run on the 1956 and 1957 albacore logs. These reports are a necessary preliminary run for the Technical Assistance and Analysis Unit. This will enable them to eliminate some vessels prior to running this data on the 709 electronic computer.

Field: A field trip was made to San Diego to sample abalone in the sampling plan for new conversion figures.

Local problems involving cannery fish receipts occupied the balance of the month.

2. Technical Assistance and Biometrical Analysis

FORTTRAN Program for English Sole Weight-Length Regression:

Work continued on design of a Computer program for the 709 to obtain regression lines from length-weight observations grouped by size and by sex. John Radovich, acting in his capacity as Research Associate, Scripps Institution of Oceanography is our faculty sponsor and has obtained computer time from Western Data Processing Center.

Albacore Boat Relative Fishing Power: The production run of the computer program to obtain the relative fishing powers of pairs of boats was completed, and a report received listing the pairwise fishing powers of 158 boats in the albacore fleet. This effort involved approximately 9 million operations, which were performed by the 709 in 15 minutes (average time 10,000 operations per second). The same work performed manually would have required an estimated 1,000 man hours. The same program will be used to obtain relative fishing powers of boats fishing during the two seasons prior to the 1958-59 season.

The job of linking boats in order to form a "standard" group from which to measure the fishing powers of all the boats in the fleet has been started.

Sampling Plan for Pacific Mackerel: Work continued on design of a sampling plan for estimating age composition of the Pacific mackerel catch.

Miscellaneous: Norm Abramson and Joyce Collins attended 3 sessions of a course in programming the 650 computer at the IBM center in Los Angeles.

3. Miscellaneous

Ed Greenhood and Annine Phillips made a field trip to San Francisco and Eureka in an effort to promote better working relationships with regional personnel and Biostatistics.

Esther Thom furnished about two weeks vacation relief for the San Francisco Biostatistical Field Function. Marguerite Jordan spent a similar three week period in Monterey. Libby Colonna, Jim Ryan, Leona Sharp, and Rita Short helped in the operations of the San Diego office during Ella Nielsen's sick leave absence. Others will follow during July until Mrs. Nielsen fully recovers.

The 1959 Statistical Circular, Number 34, was received from the printer and distributed.

Mr. John Hale, Engineer with the County of Los Angeles, consulted with Biostatistics regarding the tangible benefits of Avalon Harbor improvements.

4. Personnel

Jacqueline Stall was appointed Intermediate Account Clerk, TAU.

Esther Smith returned to work after three months sick leave.

Messrs. Barnes and Blankenburg, Department of Finance, Sacramento, visited the unit regarding our machine operations and budget requests for 1960-1961.

Three groups of Fish and Game Wardens attended training sessions in Biostatistical procedures. They were from Regions 3 and 4.

E. VESSELS

1. ALASKA

From the 1st through the 4th the ALASKA was engaged in Pelagic Fish studies (cruise 60A5). The purpose of the cruise was to test the relative fish attraction qualities of different colored lights and the effectiveness of different

types of collecting gear. The balance of the month the vessel was in the yard for engine repairs with crew on CTO and vacation.

2. N. B. SCOFIELD

On the 18th the vessel returned from a 30-day albacore scouting cruise (60S3). The balance of the month the vessel was secured with crew on vacation.

3. NAUTILUS

From the 1st through the 10th the vessel was engaged in salmon work off San Francisco Bay. From the 22nd to the end of the month the vessel conducted crab studies off central California.

4. MOLLUSK

The MOLLUSK was engaged in abalone work off Morro Bay the entire month.

F. LIBRARY

1. General

Summer invariably replaces student use of the library with both sport and commercial fishermen interested in any information to help them catch fish. Requests for information concerning the rearing of spiny lobster, grunion activities, and salt water worms for bait were the most frequently asked for. Our services were consulted by the librarian of the Colorado River Board concerning problems of special library collections.

Publications received 294.

2. Requests Processed

Outside references:	23	Letters:	50
Interlibrary loans:	8	Publications distributed:	987
Visitors:	80	Photocopy:	20 pages
Phone requests:	53	Films:	6 showings; viewed by 484

3. Visitors

June 6 - Mr. Robert C. Wilson, U. S. Fish and Wildlife Service, Honolulu Biological Laboratory.

June 10 - Mr. Vernon Brock, U. S. Fish and Wildlife Service, Honolulu Biological Laboratory.

June 14 - Mr. H. Pellegrin, Executive Secretary, Colorado River Board. Mrs. H. Stevens, Librarian, Colorado River Board.

June 27 - Mr. Lowell Gano, Budget Analyst, State Department of Finance.

4. New Books (selected)

Bolin, Bert

1959. The atmosphere and the sea in motion. New York, Rockefeller Institut Press, 509 p.

Chapman, V. J.

1960. Salt marshes and salt deserts of the world. London, Leonard Hill (Books) Ltd., 392 p.

Eibl-Eibesfeldt, Irenaus

1960. Survey on the Galapagos Islands. Paris, UNESCO, 31 p.

Gillett, Keith, and Frank McNeill

1959. The Great Barrier Reef and adjacent islands. Sydney, The Coral Press Pty. Ltd., 194 p.

King, Cuchlaine A. M.

1959. Beaches and coasts. London, Edward Arnold (Publishers) Ltd., 402 p.

Simpson, George G., Anne Roe and R. C. Lewontin

1960. Quantitative zoology. Rev. ed. New York, Harcourt, Brace and Co., 440 p.

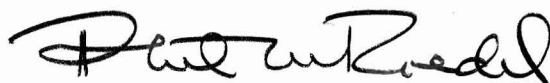
Slastenenko, E. P.

1958. The freshwater fishes of Canada. Toronto, Kiev Printers, 386 p.

G. ACTIVITIES OF MARINE RESOURCES MANAGER

- June 1 - Spent the night aboard the ALASKA observing experimental work being conducted by the Pelagic Fish Investigation.
- June 2 - Conferred with Mr. Johnson and Dr. Sette of the U. S. Bureau of Commercial Fisheries.
- June 3 - Spent the day as a guest of the Tuna Club of Avalon. Club had invited representatives of the press and a few governmental people to this "get acquainted" meeting, which was both enjoyable and profitable because of the contacts made.
- June 6 - Mr. R. C. Wilson, Honolulu Biological Laboratory, U. S. Bureau of Commercial Fisheries, called at the Lab. He spent a good part of the week here discussing tuna problems with various staff members.
- June 8-9 - With Mr. Croker I attended a meeting with the tuna industry sponsored by the U. S. Bureau of Commercial Fisheries. I presented a brief paper on the current status of our albacore and bluefin research.

- June 10 - Mr. Vernon Brock, Hawaii Area Director, U. S. Bureau of Commercial Fisheries, spent a good part of the day at the Lab discussing fisheries problems with me and various staff members.
- June 13-14 - Regular monthly staff meetings, Sacramento.
- June 15 - Spent the day at the Stanford office. The primary topic of discussion was to consider a follow-up program for D-J Project F12R which is due to terminate in mid-1961.
- June 15 - Attended the Ocean Fish Protective Association quarterly meeting. This meeting also marked the 10th anniversary of this organization.
- June 16 - Conferred at the Lab with Mr. Clark and Mr. Curry of Shell Oil Company regarding observer problems connected with their seismic exploration. The facilities currently provided for our observer are proving inadequate and Shell will consider alternatives.
- June 21 - Elton Bailey spent the day at the Lab discussing the D-J budget for 1961-62 with me and appropriate staff members.
- June 23 - Conferred with representatives of the American Tuna-boat Association and the U. S. Bureau of Commercial Fisheries in San Diego.
- June 24 - Attended a special meeting of the CalCOFI Committee in La Jolla. This meeting was designed to acquaint the immediate supervisors of the Committee members with the ideas which the Committee has been formulating over the past several months.
- June 27-29 - Mr. Lowell Gano, Senior Budget Analyst, Department of Finance, spent most of these three days at the Lab to familiarize himself with MRO programs.
- June 28 - Regular MRO monthly staff meeting, Terminal Island.



Phil M. Roedel
Marine Resources Manager

Attach. (3)

MRO-TI
6/29/60-45

DINGELL-JOHNSON PROJECT F-12-R-6
NORTHERN CALIFORNIA MARINE SPORT FISH SURVEY
REPORT FOR THE MONTH OF MAY, 1960

Sport Fishery

Salmon fishing was spotty from San Francisco south to Avila with the best catches reported from Avila and San Francisco. Bottom fishing on party boats and skiffs continued erratic. On some days the catch of deepwater rockfish would be very good and on other days only a few fish per boat would be landed.

Fishing for daytime surf smelt is reported to be poor again this year but the night time whitebait fishery is reported to be good at most beaches.

Rock fishing from shore has been exceptionally good this spring. Large numbers of striped seaperch have appeared throughout the rocky areas from San Francisco to Monterey. Nearly all these seaperch (spawning adults) were between 10 and 13 inches total length.

Total Effort and Angler Use Studies

Routine coverage of the party boat and rock fishermen was continued.

Several days were spent by all project personnel preparing Part II of A Field Guide to Some Common Ocean Sport Fishes.

All personnel attended the Cen-Cal skindiving championship meet at Salt Point on May 8. Very few fish were taken this year in comparison to previous meets.

Gotshall presented information on project findings to three clubs:

May 3 - Martinex Blue Fins
May 11 - Sonoma County Reef Runners
May 17 - Redwood Ling Lancers

Miller presented similar information to the following clubs:

May 2 - Arroyo Grande Sea Horses
May 16 - Santa Cruz Aqua Techs
May 23 - San Francisco Ocean Club

Miller presented data on the pier, shore and skiff fisheries in the Morro Bay and Cayucos areas to the Cayucos Chamber of Commerce on May 15.

Personnel Changes: Donovan Johnson, Seasonal Aid at Morro Bay, was hired on May 15.

DINGELL-JOHNSON PROJECT F-12-R-6
NORTHERN CALIFORNIA MARINE SPORT FISH SURVEY
REPORT FOR THE MONTH OF JUNE, 1960

Report not received.

DINGELL-JOHNSON PROJECT F-16-R-3

BARRACUDA AND WHITE SEABASS MANAGEMENT STUDY

REPORT FOR THE MONTH OF JUNE, 1960

White seabass fishing, both sport and commercial was poor. Sportfishing boats took a few "sea trout", a popular name for small white seabass, while commercial landings amounted to about 10 percent of the June, 1959 total of 116,000 pounds. Because of the unavailability of the fish, only a few boats went after them. The remainder of the vessels in the fleet fished for barracuda or remained idle.

Barracuda fishing, on the other hand, was extremely good. Sportfishing boats "loaded-up" on barries all along the southern California coast, several hot spots being Santa Monica Bay, Point Vicente, Huntington Flats, Dana Point, Barn Kelp, and La Jolla Kelp. Commercial boats, including several that normally fish for white seabass, made their best catches at Rocky Point, Point Vicente, and Huntington Flats. With seven fishing days left in the month, landings were almost double last June's figure of 103,000 pounds.

Project personnel, assisted by three wardens attending in-service training at Terminal Island and Mr. John Babel, a graduate student at the University of Southern California, spent one day beach seining at Newport Dunes. The area having been dredged about two years ago has a relatively new environment. Two hauls produced 12 species of fishes including a small white seabass.

One barracuda tag, the 168th, was received this month. The fish, released at Point Camalu, Baja California on May 17, 1959, was recovered June 15 at La Jolla Kelp.

Development of a scale-reading apparatus was completed, and the first phase of barracuda scale reading was begun.

Work on a barracuda tagging paper continued, but at a reduced rate because of a step-up in the field activities of sampling barracuda and white seabass commercial and sport catches.

Sonja Detert and Margaret Hoggan were employed for the summer to mount barracuda and white seabass scales for age analysis. Don Koepp and Ted Reichardt were appointed as seasonal aids in mid-June to facilitate sampling of the sport and commercial catches. Miss Detert and Mr. Koepp are returnees from last summer.

DINGELL-JOHNSON PROJECT F-17-R-3

OCEAN FISH HABITAT DEVELOPMENT

REPORT FOR THE MONTH OF JUNE, 1960

Redondo Beach-Palos Verdes

The streetcars appear to be in fair condition in spite of their being heavily infested with teredos. A strong surge will probably cause additional pieces of the cars to break off but in spite of these anticipated losses the cars should continue to attract fishes.

The fish count dropped slightly (about 20 percent from last month). This may be due in part to fishing pressure. Many snagged hooks and lines were observed on the streetcars. The chain from a small anchor was found wrapped around part of one car.

There were very few large fish around the cars this month.

Large numbers of white sea urchins were again observed around the streetcars.

There is still no sign of giant kelp of any size. There are reports, from sport divers, that some kelp is returning to the Palos Verdes coastline. A survey is planned to determine the validity of this report.

Paradise Cove

The giant kelp on the automobile reef forms a heavy canopy. Sixteen separate areas are visible from the surface. Several pictures were taken, from the state airplane, to illustrate the size and condition of this kelp bed.

New plants have been observed on most of the cars. The study of growth with relation to temperature will be resumed now that a second diver has joined the project.

Of the original 20 cars dumped two years ago, 16 are still recognizable. The other four are in scattered pieces, but are able to support medium to large kelp holdfasts and are surrounded by many different fishes.

Because of increased water clarity this month a better estimate of the fish population was made. The major families appear to be stabilizing themselves and are in roughly the same order of dominance each month.

Richfield Oil Island - Rincon

The water visibility around the island was limited, with the exception of the NW corner. However, a fairly good estimate of the fish population was accomplished. The total fish count increased about 30 percent from last month. This increase can be

accounted for in part by several hundred juvenile olive rockfish, and a large number of juvenile surfperch.

The giant kelp around the island appears healthy in waters shallower than 25 feet. Below this level the holdfasts are old and rotten, with only one or two stipes rising from them. Most of the holdfasts around the island have many brittle-stars hiding in them. The kelp on the southern side of the island is in particularly bad shape.

The large concentrations of purple sea urchins, noted in past months, seem to have dwindled slightly. The major concentrations are on the north and east sides of the island. Previously they abounded on all parts of the island.

Standard-Humble Oil Platform .. Summerland

For about a week prior to the survey dive, workmen had been jetting the bottom mud to lay a pipeline from Tower No. 2 to Tower No. 1. This made conditions far from ideal for fish observing. This activity may also account for a drop in fish count by about 32 percent from last month. This may have been caused in part by the lack of pelagic fish around the tower. As usual the surfperches were numerically the most abundant fishes.

One of the newer drilling pipes has many young giant kelp plants attached to it. The growth and success of these plants will be closely watched in future dives.

The small kelp scallops, so abundant last year, seem to have lost considerable ground in their fight for attachment space. They are apparently unable to compete with the mussels that are now so abundant on the tower.

The mussels are very heavily concentrated to a depth of 40-45 feet with scattered groups to about 60 feet. Below the 60-foot level the major encrusting organisms are barnacles and bryozoans.

DINGELL-JOHNSON PROJECT F-17-R 3

OCEAN FISH HABITAT DEVELOPMENT

Report for the Month of June

AREA	Redondo- Palos Verdes	Paradise Cove	Richfield Rincon	Standard Humble
DATE	14 June 1960	16 June 1960	20 June 1960	24 June 1960
WEATHER	Overcast	Overcast	Clear	Clear
Air Temp.	62° F	68° F	72° F	68° F
WATER	Many minute organ- isms in the water	Heavy plankton bloom	Milky-green water with heavy conc. of plankton	Murky water due to jetting of bottom and plankton bloom
Clarity	15-30 feet	10-35 feet	0-20 feet	0-15 feet
Surge	None	Moderate	Moderate - Heavy	Slight
Temperature				
Surface	64° F	62° F	64° F	60° F
Bottom	56° F	58° F	55° F	53° F
Depth	60 feet	50 feet	43 feet	105' obsvd. to 90 ft.
FISHES OBSERVED				
Families	7	7	6	9
Species	14	19	17	20
Total No.	726	9224	3016	6319
Families MAJOR SPECIES BY PERCENT				
#1	Embiotocidae 42%	Embiotocidae 91%	Embiotocidae 38%	Embiotocidae 59%
#2	Gobiidae 41%	Serranidae 5%	Atherinidae 25%	Scorpaenidae 18%
#3	Pomacentridae 9%	Labridae 2%	Scorpaenidae 19%	Pomacentridae 8%
#4	Serranidae 6%	Others 2%	Serranidae 17%	Atherinidae 8%
#5	Others 2%		All others 4%	Serranidae 6%
#6				All others 1%

REMARKS: